

**REMARKS**

Claims 1 through 9 and 11 are pending in this Application. Applicant acknowledges, with appreciation, the Examiner's indication that claim 5 contains allowable subject matter.

Claims 1, 2, 9 and 11 have been amended and claim 10 cancelled. Care has been exercised to avoid the introduction of new matter. Specifically, limitations from claims 2 have been incorporated into claims 1 and 11. Applicant submits that the present Amendment does not generate any new matter issue.

**Claims 1 through 4, 6 through 8, 10, and 11 were rejected under 35 U.S.C. § 102 for lack of novelty as evidenced by Bolshtyansky et al.**

In the Responsive Amendment dated June 26, 2006, it was argued that the claimed invention differs over Bolshtyansky et al., because Bolshtyansky et al. does not disclose a device containing a nonlinear medium. The Examiner, commencing in the 11th enumerated section on page 6 of the August 23, 2006 Office Action, responded by arguing that all fibers are inherently nonlinear mediums. This rejection is traversed.

There are two significant factors supporting the determination that Bolshtyansky et al. do **not** disclose, inherently or otherwise, a module identically corresponding to that claimed containing a nonlinear medium. Specifically, the nonlinear medium of the claimed invention is not part of an optical multiplexer, but a separate element. On the other hand, advertent to Fig. 3 of Bolshtyansky et al., it should be apparent that an equivalent of a light source system of the present invention would appear to be Raman pump 32/42 consisting of elements 48, 50, 52, 54, and 56, -not only a laser diode 48.

Clearly, a nonlinear medium as employed in the claimed invention is neither disclosed nor suggested by Bolshtyansky et al. This is because an equivalent of “a single fiber 52” of Bolshtyansky et al. is part of optical multiplexer 32/54.

Further, the only reasonable interpretation of the claimed invention, particularly the nonlinear medium, in light of and in the context of the disclosure, as judicially required and as one having ordinary skill in the art would have understood, is something which is actually employed for the purpose of utilizing a nonlinear phenomenon. *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) (*en banc*). As previously pointed out, the single fiber 52 disclosed by Bolshtyansky et al. is part of an optical multiplexer, and not employed to utilize a nonlinear phenomenon.

Applicant separately argues the patentability of claim 2. This is because the Examiner erroneously asserted that the limitations in claim 2 are really functional. There are not functional. As one having ordinary skill in the art would have understood, the expression “capable of causing optical parametric effect” defines a **high-output laser**. It is not a functional limitation.

The above argued functionally significant difference between the claimed invention and Bolshtyansky et al. undermines the factual determination that Bolshtyansky et al. identically disclose the claimed invention within the meaning of 35 U.S.C. § 102. Even though any optical fiber performs a nonlinear phenomenon under a particular condition, it should not always be treated as a nonlinear medium. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986). Applicant, therefore, submits that

the imposed rejection of claims 1 through 4, 6 through 8, 10, and 11 under 35 U.S.C. § 102 for lack of novelty as evidenced by Bolshtyansky et al. is not factually viable and, hence, solicit withdrawal thereof.

**Claim 9 was rejected under 35 U.S.C. § 103 for obviousness predicated upon Bolshtyansky et al. in view of Tsuzaki.**

This rejection is traversed.

Claim 9 depends from independent claim 1. Applicant incorporates herein the arguments previously advanced in traversing the imposed rejection of claim 1 under 35 U.S.C. § 102 for lack of novelty as evidenced by Bolshtyansky et al. The secondary reference to Tsuzaki does not cure the previously argued deficiencies of Bolshtyansky et al. Indeed, the HNLF disclosed by Tsuzaki is employed for amplification (page MA 3-2, line 10), not in a Raman amplification pump module.

Based upon the foregoing it should be apparent that even if the applied references are combined as proposed by the Examiner, and Applicant does not agree that the requisite fact-based motivation has been established, the claimed invention would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Applicant, therefore, submits that the imposed rejection of claim 9 under 35 U.S.C. § 103 for obviousness predicated upon Bolshtyansky et al. in view of Tsuzaki is not factually or legally viable and, hence, solicits withdrawal thereof.

**Claims 9 was rejected under the first paragraph of 35 U.S.C. § 112 for lack of adequate enabling support.**

In the statement of rejection the Examiner simply identified that there is no upper-limit on the ratio for  $\gamma/\alpha$ . This rejection is traversed.

The Examiner improperly adopted a per se rule for lack of enablement. However, lack of enablement under the first paragraph of 35 U.S.C. § 112 is a question of law. *U.S. Steel Corp. v. Philips Petroleum Co.*, 865 F.2d 1247, 9 USPQ2d 1461 (Fed. Cir. 1989); *U.S. v. Teletronics Inc.*, 857 F.2d 778, 8 USPQ2d 1217 (Fed. Cir. 1988). In rejecting a claim under the first paragraph of 35 U.S.C. § 112 for lack of adequate enabling support, it is incumbent upon the Examiner to establish a basis in fact and/or cogent technical reasoning to support the ultimate legal conclusion that one having ordinary skill in the art would not be able to practice the claimed invention, armed with the supporting specification, without undue experimentation. *In re Cortright*, 165 F.3d 1353, 49 USPQ2d 1464 (Fed. Cir. 1999); *In re Brana*, 51 F.2d 1560, 34 USPQ2d 1436 (Fed. Cir. 1995); *In re Marzocchi*, 439 F.2d 220, 169 USPQ 367 (CCPA 1971). Applicant emphasizes that a patent disclosure is directed to one having ordinary skills in the art. *In re Howarth*, 654 F.2d 103, 210 USPQ 589 (CCPA 1981). Moreover, and quite significantly, it has been repeatedly held that the scope of enablement varies inversely with the degree of predictability in the art, i.e., enablement is a function of the complexity of the involved subject matter. *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990); *U.S. v. Teletronics Inc.*, *supra*. Applicant stresses that a patent specification is **presumed enabling** in the absence of a reason to doubt the objective truth of the statements contained therein. *In re Cortright*, *supra*; *In re Brana*, *supra*; *In re Marzocchi*, *supra*.

In applying the above legal tenets to the exigencies of this case, particularly **the judicial presumption of enablement**, Applicant submits that the Examiner did not establish a *prima facie* basis to deny patentability to the claimed invention under the first paragraph of 35 U.S.C. § 112 for lack of adequate enabling support. Specifically, the Examiner has not overcome the presumption of enablement, as by advancing technological reasoning to doubt the statements in the specification, or by establishing that the claimed invention is inherently unbelievable or involves implausible scientific principles. *In re Cortright, supra*. Rather, the Examiner simply points to the absence of an upper limit, as though one having ordinary skill in the art would have theoretically envisioned any upper limit would be applicable, and then announced the legal conclusion of lack of enablement under the first paragraph of 35 U.S.C. § 112.

At any rate, in order to expedite prosecution, claim 9 has been amended to clarify that the ratio is not less than the recited value. Applicant submits that given the guidance in the disclosure, one having ordinary skill in the art would have recognized an operable ratio, certainly without undue experimentation. On this issue the Examiner has not favored the record with technological reasoning and hence, has not established a *prima facie* basis to deny patentability to the claimed invention under the first paragraph of 35 U.S.C. § 112 for lack of adequate enabling support.

Applicant, therefore, submits that the imposed rejection of claim 9 under the first paragraph of 35 U.S.C. § 112 for lack of adequate enabling support is not legally viable and, hence, solicits withdrawal thereof.

**Claim 9 was rejected under the second paragraph of 35 U.S.C. § 112.**

In the statement of rejection the Examiner asserted that the claim range lacks an upper limit. This rejection is traversed.

The Examiner, again, improperly adopted a per se rule to reject the claims. However, indefiniteness under the second paragraph of 35 U.S.C. § 112 is a **question of law**, not a litmus test. *Personalized Media Communications LLC v. U.S. International Trade Commission*, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998); *Tillotson, Ltd v. Wlaboro Corp.*, 831 F.2d 1033, 4 USPQ2d 1450 (Fed. Cir. 1987); *Orthokinetics Inc. v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1 USPQ2d 1081 (Fed. Cir. 1986). Accordingly, in rejecting a claim under the second paragraph of 35 U.S.C. § 112, the Examiner must provide a basis in fact and/or cogent technical reasoning to support the ultimate legal conclusion that one having ordinary skill in the art, with the supporting specification in hand, would not be able to reasonably ascertain the scope of protection defined by a claim. *In re Okuzawa*, 537 F.2d 545, 190 USPQ 464 (CCPA 1976). Significantly, consistent judicial precedents holds that **reasonable precision** in light of the particular subject matter involved is all that is required by the second paragraph of 35 U.S.C. § 112. *Zoltek Corp. v. United States*, 48 Fed. Cl. 240, 57 USPQ2d 1257 (Fed. Cl. 2000); *Miles Laboratories, Inc. v. Shandon, Inc.*, 997 F.2d 870, 27 USPQ2d 1123 (Fed. Cir. 1993); *North American Vaccine, Inc., v. American Cyanamid Co.*, 7 F.3d 1571, 28 USPA2d 1333 (Fed. Cir. 1993); *U.S. v. Telectronics Inc.*, 857 F.2d 778, 8 USPQ2d 1217 (Fed. Cir. 1988); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 USPQ (Fed. Cir. 1986). Applicant stresses that claims must be interpreted as one having ordinary skill in the art would have interpreted the claims in light of and consistent with the supporting specification. *Zoltek Corp. v. United States*, *supra*; *Miles Laboratories, Inc. v. Shandon, Inc.*, *supra*.

In applying the above legal tenets to the exigencies of the case, Applicant submits that the Examiner did not discharge the initial burden of establishing a *prima facie* basis to deny patentability to the claimed invention under the second paragraph of 35 U.S.C. § 112.

Specifically, there is **no litmus test** triggering the ultimate legal conclusion of indefiniteness under the second paragraph of 35 U.S.C. § 112 because an **open range** appears in a claim.

Merely because some claim language may not be precise does not automatically result in indefiniteness under the second paragraph of 35 U.S.C. § 112. *Seattle Box Co., Inc. v. Indus Crating & Parking, Inc.*, 731 F.2d 818, 826 [221 USPQ 568] (Fed. Cir. 1984). Indeed, the use of relative expressions has been sanctioned in numerous judicial decisions. See, for example, *Andrew Corp. v. Gabriel Electronics, Inc.*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988).

**Precision should not be equated with quantification.** Rather, the degree of precision required is a function of the subject matter. *Miles Laboratories, Inc. v. Shandon, Inc.*, *supra*. In this respect, Applicant would point out that claims can only be held indefinite if reasonable efforts at claim interpretation prove futile, and that the claim is insolubly ambiguous with no narrowing construction proper regardless of how formable a task it is to understand the claim. *Exxon Research & Eng'g., Co. v. United States*, 265 F.3d 1371, 1375 [60 USPQ2d 1272] (Fed. Cir. 2001). See also *Invitrogen Corp. v. Biocrest Manufacturing L.P.*, \_\_\_\_ F.3d \_\_\_\_, 76 USPQ2d 1741 (Fed. Cir. 2005).

At any rate, in order to expedite prosecution, claim 9 has been amended to clarify that the ratio is not less than the recited value. With the above legal tenets in mind Applicant submits that one having ordinary skill in the art would have had no difficulty understanding the scope of claim 5, particularly when reasonably interpreted in light of and consistent with the written description of the specification, which is the judicial standard. *Miles Laboratories, Inc. v.*


*Shandon, Inc., supra.* Applicant, therefore, submits that the imposed rejection of claim 9 under the second paragraph of 35 U.S.C. § 112 is not legally viable and, hence, solicits withdrawal thereof.

Applicant again acknowledges, with appreciation, the Examiner's indication that claim 9 contains allowable subject matter. Based upon the arguments submitted *supra*, it should be apparent that the imposed rejections have been overcome, and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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